

**REMARKS**

As a preliminary matter, the Examiner has rejected Claims 22, 32, 36, and 37 under 35 U.S.C. § 112, second paragraph, as being indefinite for containing the phrase “can be”. The Examiner has also objected to Claim 22 because of an informality. Claims 22, 32, 36, and 37 have been amended to correct these issues. Accordingly, Applicants respectfully assert that Claims 22, 32, 36, and 37 are now in acceptable form. Therefore, Applicants respectfully request Examiner withdraw the rejections of Claims 22, 32, 36, and 37 under 35 U.S.C. § 112, second paragraph, and of Claim 22 because of an informality.

The Examiner has rejected Claims 22-24, 26, and 31-34 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,042,293 to Heyde (“Heyde”). The Examiner has also rejected Claims 25, 27-30, and 35-42 under 35 U.S.C. § 103(a) as being unpatentable over Heyde in view of U.S. Patent Application Pub. No. 2002/0179493 to Etter (“Etter”). Claims 22-42 stand currently amended. Claims 43-45 stand newly added. Claims 1-21 stand previously canceled. Claims 22-45 are currently pending. The following remarks are considered by applicant to overcome each of the Examiner’s outstanding rejections to current Claims 22-45. An early Notice of Allowance is therefore requested.

**I. SUMMARY OF RELEVANT LAW**

The determination of obviousness rests on whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. In determining obviousness, four factors should be weighed: (1) the scope and content of the prior art, (2) the differences between the art and the claims at issue, (3) the level of ordinary skill in the art, and (4) whatever objective evidence may be present. Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor. The Examiner carries the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness and must show that the references relied on teach or suggest all of the limitations of the claims.

**II. REJECTION OF CLAIMS 22-24, 26, AND 31-34 UNDER 35 U.S.C. § 103(A) BASED ON****HEYDE**

On page 3 of the current Office Action, the Examiner rejects Claims 22-24, 26, and 31-34 pursuant to 35 U.S.C. § 103(a) as being unpatentable over Heyde. These rejections are respectfully traversed and believed overcome in view of the following discussion.

**Claims 22-24, and 26**

Amended, independent Claim 22 states, in part:

**“a measurement cell with a spectroscopic measurement head which carries out a nondestructive spectroscopic measurement of a sample of the pumpable material by light absorption and/or light transmission....”** (emphasis added).

Examiner admits that Heyde fails to disclose a measurement cell with a spectroscopic measurement head. Examiner merely asserts it would be obvious to have provided such a spectroscopic measurement head. This, however, misinterprets the teachings of Heyde.

More specifically, Heyde relates fully (and exclusively) to chromatography, it would need a complete redesign to use optical spectroscopy for the same purpose. As such, it is not obvious to change the entire teaching of Heyde so as to modify it to include a spectroscopic measurement head, as blindly asserted by Examiner without any support whatsoever.

In addition, Claim 22 requires that the spectroscopic measurement of the sample is nondestructive. However, Heyde’s teaching is destroys the sample, because chromatography needs an eluent -- thereby introducing an additional substance into the sample, thus diluting it. Afterwards the sample can not be used for its original purpose anymore, and is therefore destroyed. The sample thus becomes waste, as Heyde states several times (e.g., sign 46 in Figs. 2 and 7; Col. 8, Lns. 3-25), further evidencing that the sample of Heyde is destroyed. This teaching of Heyde is incompatible with a nondestructive measurement according to Claim 22, where the sample can still be used afterwards.

Further, Claim 22 requires that the spectroscopic measurement of the sample is carried out by light absorption and/or light transmission. However, Heyde’s only intention and

teaching is to measure ion concentrations (in water) in the parts-per-trillion range to reduce corrosion. Heyde, Col. 1, Lns. 16-35. By contrast, optical spectroscopy does not work for ion concentrations as small as this. So using a spectrometer to measure light transmission/absorption instead of the ion chromatography of Heyde would not work with teachings of Heyde.

For all of the above reasons, it would not be obvious to one of ordinary skill in the art to substitute nondestructive spectroscopic measurement, which is not taught by Heyde and is required by Claim 1, for the destructive ion chromatography of Heyde.

Accordingly, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of anticipation of independent Claim 22, and corresponding Claims 23, 24, and 26 because they are each ultimately dependent from Claim 22. Therefore, Applicant respectfully requests that Examiner remove the rejection of Claims 22-24, and 26 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,042,293 to Heyde.

#### **Claims 31-34**

Similarly to Claim 22, amended, independent Claim 31 states, in part:

“allowing the measurement head to carry out a **nondestructive spectroscopic measurement** of the sample flowing through the measurement cell **by light absorption and/or light transmission** using the principle of transflection....” (emphasis added).

As discussed above in relation to Claim 22, it would not be obvious to one of ordinary skill in the art to substitute nondestructive spectroscopic measurement, which is not taught by Heyde and is required by Claim 1, for the destructive ion chromatography of Heyde.

Accordingly, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of anticipation of independent Claim 31, and corresponding Claims 33 and 34 because they are each ultimately dependent from Claim 31. Therefore, Applicant respectfully requests that Examiner remove the rejection of Claims 31-34 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,042,293 to Heyde.

**III. REJECTION OF CLAIMS 25, 27-30, AND 35-42 UNDER 35 U.S.C. § 103(A) BASED ON  
HEYDE IN VIEW OF ETTER**

On page 6 of the current Office Action, the Examiner rejects Claims 25, 27-30, and 35-42 pursuant to 35 U.S.C. § 103(a) as being unpatentable over Heyde in view of Etter. These rejections are respectfully traversed and believed overcome in view of the following discussion.

**Claims 25, 27-30, and 35-39**

Claims 25, 27-30, and 35-39 are ultimately dependent from either independent Claim 22 or independent Claim 31. As Claims 22 and 31 are allowable, so must be Claims 25, 27-30, and 35-39. Accordingly, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of obviousness of Claims 25, 27-30, and 35-39. Therefore, Applicant respectfully requests that Examiner remove the rejection of Claims 25, 27-30, and 35-39 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,042,293 to Heyde in view of U.S. Patent Application Pub. No. 2002/0179493 to Etter.

**Claim 30**

As stated above, Claim 30 depends from Claim 22, and is thus allowable. In addition, Claim 30 states, in part:

**“wherein the controlling and evaluating unit determines components and concentrations of substances contained in the sample, and regulates the through-flow of the outlet valve based on the determined components and concentrations of the substances contained in the sample.” (emphasis added).**

This is similar to claim language that was previously present in Claim 41. Regarding Claim 41, Examiner admitted that Heyde fails to disclose the above language now present in Claim 30. Rather, Examiner points to Etter as disclosing this language. This, however, misinterprets the teachings of Etter.

More specifically, Examiner asserts that paragraphs [0596] and [0597] on page 50 of Etter disclose the above language of Claim 30. However, this portion of Etter relates to

addition of VCMs (volatile combustible materials) to coke quench material. In particular, Etter states that the optimal rate for VCM/quench media addition will depend on the VCMs selected and the desired effect. Etter, P. 50, ¶ [0597]. Thus, it is only the types of VCMs which matter, and not the concentrations of these VCMs which matter.

This is most definitely does not disclose a controlling and evaluating unit that regulates the through-flow of the outlet valve based on the determined components and concentrations of the substances contained in the sample. Further, Etter is completely silent as to any controlling and evaluating unit which determines components and concentrations of substances contained in a sample, and then regulates the through-flow of the outlet valve based on the determined components and concentrations of the substances contained in the sample. As such, both Heyde and Etter fail to disclose the above language of Claim 30.

However, even if Etter did teach such a controlling and evaluating unit as in Claim 30 (which Applicants dispute), one of ordinary skill in the art would find no motivation to combine the teachings of Etter with those of Heyde. Etter teaches adding VCMs to a coke quench to receive a desired effect. Thus, it is understandable how the rate for adding the VCM/quench media to the coke may depend on the VCMs selected. However, as discussed above in relation to Claim 22, Heyde teaches measuring ion concentrations of a sample via ion chromatography, which destroys the sample by turning it into waste. As such, the sample of Heyde is waste and cannot be used for anything else. Thus, one of ordinary skill in the art would know that the flow rate of the destroyed sample does not depend on the components and concentrations of the substances contained in that destroyed sample.

Further, the teachings of Etter (i.e., the production of coke) are completely disparate and unrelated to those of Heyde (i.e., measuring ion concentrations of a sample via ion chromatography). As such, there is no reasonable expectation that the teachings in Etter are even transferable to those of Heyde, let alone that there would be a reasonable expectation of success of combining teachings related to the production of coke with those relating to ion chromatography. In fact, seeing as how Etter relates to coking petroleum which happens at

temperatures above the boiling point of water (at least 750°F, paragraph 563), and Heyde relates to measuring ion concentrations in water, one would expect that the teachings of Etter could not be applicable to those of Heyde.

Moreover, both of the teachings of Heyde (which destroys the sample via ion chromatography) and Etter (which destroys the VCM/quench media by adding it to the coking process) are incompatible with the current claims that require a nondestructive spectroscopic measurement of a sample.

Accordingly, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of anticipation of Claim 30. Therefore, Applicant respectfully requests that Examiner remove the rejection of Claim 30 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,042,293 to Heyde in view of U.S. Patent Application Pub. No. 2002/0179493 to Etter.

#### **Claims 40-42**

Similarly to Claim 30, amended, independent Claim 40 states, in part:

**“wherein a control signal is generated by the controlling and evaluating unit based on the determined components and concentrations of substances contained in the sample, and is used to regulate the flow through an outlet valve of the outlet line of the vessel.”** (emphasis added).

Examiner admits that Heyde fails to disclose the above language of Claim 40 (see Examiner’s rejection of Claim 41). Also, as discussed above in relation to Claim 30, Etter fails as well to disclose the above language of Claim 40. Further, also as discussed above in relation to Claim 30, even if Etter did teach such a controlling and evaluating unit as in Claim 40 (which Applicants dispute), one of ordinary skill in the art would find no motivation to combine the teachings of Etter with those of Heyde. In fact, seeing as how Etter relates to coking petroleum which happens at temperatures above the boiling point of water (at least 750°F, paragraph 563), and Heyde relates to measuring ion concentrations in water, one would expect that the teachings of Etter could not be applicable to those of Heyde. Moreover, both of the teachings of Heyde

(which destroys the sample via ion chromatography) and Etter (which destroys the VCM/quench media by adding it to the coking process) are incompatible with the current claims that require a nondestructive spectroscopic measurement of a sample.

Accordingly, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of anticipation of independent Claim 40, and corresponding Claims 41 and 42 because they are each ultimately dependent from Claim 40. Therefore, Applicant respectfully requests that Examiner remove the rejection of Claims 40-42 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,042,293 to Heyde in view of U.S. Patent Application Pub. No. 2002/0179493 to Etter.

#### IV. NEW CLAIMS 43-45

For the following reasons, Applicants respectfully assert that new Claims 43-45 are in allowable form.

##### Claim 43

Claim 43 ultimately depends from Claim 22. As Claim 22 is allowable, so must be Claim 43. In addition, Claim 43 states, in part:

“wherein the arrangement is **mounted in its entirety on a vehicle** for dispensing pumpable organic waste.” (emphasis added).

In the rejection of Claim 40, Examiner admits that Heyde fails to disclose the above language of Claim 43. Rather, Examiner points to Etter as disclosing this language. This, however, misinterprets the teachings of Etter.

It is true that Etter refers to “rail cars” in paragraph 597. However, this is as a “post coker treatment to allow additional time for other options”, and not as a structural feature of an arrangement for any measurement purposes whatsoever. Rather, this “post coker treatment/railway cars” reference is a step of a method. Further, only the coked petroleum seems to be put on rail cars, and not a measurement arrangement, as stated in Claim 43.

Accordingly, Applicants respectfully assert that Claim 43 is in allowable form. Therefore, Applicants respectfully request Examiner allow Claim 43.

#### **Claim 44**

Claim 44 ultimately depends from Claim 22. As Claim 22 is allowable, so must be Claim 44. In addition, Claim 44 states, in part:

**“means for conveying the sample back into the outlet line downstream of the measurement cell.”** (emphasis added).

Both Heyde and Etter fail to disclose recirculating a sample after a measurement. In the rejection of Claim 40, Examiner asserts that Etter discloses the above claim language at paragraphs [0596]-[0597]. However, this portion of Etter relates to the addition of VCM/quench media to coke, and does not describe any recirculating by conveying a sample back into an outlet line, as stated in Claim 44.

Accordingly, Applicants respectfully assert that Claim 44 is in allowable form. Therefore, Applicants respectfully request Examiner allow Claim 44.

#### **Claim 45**

Claim 45 ultimately depends from Claim 40. As Claim 40 is allowable, so must be Claim 45. In addition, Claim 45 states, in part:

**“wherein the vessel is arranged on a vehicle.”** (emphasis added).

In the rejection of Claim 40, Examiner admits that Heyde fails to disclose the above language of Claim 45. Rather, Examiner points to Etter as disclosing this language. This, however, misinterprets the teachings of Etter.

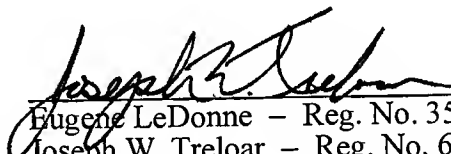
It is true that Etter refers to “rail cars” in paragraph 597. However, this is as a “post coker treatment to allow additional time for other options”, and not as a structural feature of an vessel (from which a sample to be measured is taken) arranged on a vehicle for any measurement purposes whatsoever. Rather, this “post coker treatment/railway cars” reference is a step of a method. Further, only the coked petroleum seems to be put on rail cars, and not the type of vessel described in Claim 45.



Accordingly, Applicants respectfully assert that Claim 45 is in allowable form.  
Therefore, Applicants respectfully request Examiner allow Claim 45.

Based upon the above remarks, Applicant respectfully requests reconsideration of this application and its early allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,



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